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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,854	12/14/2001	Steven L. Scott	499.710US1	6674
21186 7590 06/11/2007 SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER HALIYUR, VENKATESH N	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 06/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/020,854	<b>Applicant(s)</b> SCOTT ET AL.	
	<b>Examiner</b> Venkatesh Haliyur	<b>Art Unit</b> 2616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 8, 10-15, 18, 19, 21-23, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 9, 16, 17, 20, 24 and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 03/21/2007 has been entered.
2. Claims 1-27 are pending in the application.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4,7-8,10-15,18-19,21-23,26-27 is rejected under 35 U.S.C. 102(e) as being anticipated by Forin [US Pat: 6,321,276].

Regarding claims 1,12, Forin in the invention of "Recoverable Methods and Systems for Processing Input/Output Requests Including Virtual Memory Addresses" disclosed a method of node translation for communicating over virtual channels in a clustered multiprocessor system, the clustered multiprocessor system including a plurality of processing element nodes including a local processing element node and a remote processing element node, and a network interconnect coupled between the processing element nodes for sending communications between the processing element nodes, wherein the local processing element node (**network node**) includes a processor and a communication engine (**Figs 1-2,6**), comprising: assigning a connection descriptor to a virtual connection (**col 3, lines 40-65**) the connection descriptor being a handle that specifies an endpoint node for the virtual connection (**logical connection, col 6, lines 47-67, col 7 lines 1-19**); defining a local connection table accessible by the communication engine (**virtual interface agent, Fig 6**), wherein the local connection table is configured to be accessed using the connection descriptor to produce a system node identifier for the endpoint node (**col 14, lines 52-67**); generating, within the processor, a communication request including the connection descriptor (**request processor, 60, col 15, lines 1-18**); in response to the communication request, accessing, via the communication engine, the local connection table using the connection descriptor of the communication request to produce the system node identifier for the endpoint node (**remote node**) for the virtual connection

(**col 15, lines 19-36**); and sending a memory request from the communication engine to the endpoint node, wherein the memory request is sent to the local processing element node if the endpoint node is the local processing element node (**col 15, lines 37-43**), and is sent over the network interconnect (**interconnection nodes**) to the remote processing element node if the endpoint node is the remote processing element node and wherein transfer of data associated with the memory request occurs (**data store, col 14, lines 32-51**) independently of the processor that generated the communication request (**col 15, lines 44-63**) [**Fig 2, col 7, lines 65-67, col 8, lines 1-46**].

Regarding claims 22-23, Forin disclosed in a clustered multiprocessor system including a plurality of processing element nodes, including a local processing element node and a remote processing element node, and a network interconnect coupled between the processing element nodes for sending communications between the processing element nodes, a node translation apparatus (**Figs 2,4**) comprising: a memory configured to store a local connection table having a plurality of entries indexed by a connection descriptor (**col 10, lines 49-60**), each entry of the local connection table storing a system node identifier for the endpoint of a virtual connection (**logical connection**); and a communication engine (**virtual interface agent, Fig 6, col 14, lines 32-67, col 15, lines 1-19**) connected to one or more processors in the local processing element node (**network node**) and configured to receive a communication request including a connection descriptor from a user process executing on one of the processors in the local processing element node (**col 10, lines 61-67**), to access the local connection table using the connection descriptor of the communication request to

produce the system node identifier for the endpoint node (**remote node**) for the virtual connection, and to send a memory request to the endpoint node identified using the local connection table (**col 11, lines 1-30**), wherein the memory request is sent internally to the endpoint node if the endpoint node is located within the local processing element node, and is sent over the network interconnect (**interconnection nodes**) to the endpoint node if the endpoint node is located within the remote processing element node, wherein transfer of data associated with the memory request occurs independently of the processor that generated the communication request (**col 11, lines 31-67**).

Regarding claim 2-4,13-15, Forin disclosed assigning is performed by a local operating system in response to an operating system call by a local user process (**col 2, lines 45-58**) and assigning uses the connection descriptor to define a logical connection between a first virtual address space used by a local user process and a second virtual address space, whereby the connection descriptor allows the local user process to access the second virtual address space and defining is performed by the local operating system, which defines a local connection table for each user process (**col 2, lines 59-67,col 3, lines 1-26**).

Regarding claims 7-8, 18-19,Forin disclosed wherein generating is performed by a local user process, which applies the communication request to the communication engine (**virtual interface agent**) and accessing and sending are performed by the communication engine in response to the communication request (**col 14, lines 52-67, col 15, lines 1-19, Fig 6**).

Regarding claims 10-11,21, Forin disclosed wherein generating, accessing and sending are performed without intervention by an operating system (**col 13, lines 15-22**) and sending includes determining if a maximum number of outstanding packets has been reached (**page out, col 13, lines 23-49**).

Regarding claims 26-27, Forin disclosed wherein each processing element node includes a communication engine (**virtual interface agent**), wherein address translation occurs within the communication engine and wherein a communication engine on one processing element node performs address translation for an address on another processing element node (**col 11, lines 11-30**).

### ***Allowable Subject Matter***

5. Claims 5,6,9,16,17,20,24,25 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Wing Chan can be reached @ (571)-272-7493. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Venkatesh Haliyur

Patent Examiner

*vh* 06/05/07

*Wing Chan*  
6/6/07

WING CHAN  
SUPERVISORY PATENT EXAMINER